

FIG. 1

DSD_MTID_GATEWAY		
Key	Value	Valid
GW.1	HOST2.1860	1
GW.2	HOST3.1862	1
GW.3	HOST4.1863	1
GW.4	HOST2.1864	1
GW.5	HOST2.1880	1

FIG. 2A

DSD_MTID_METADATA		
Key	Value	Valid
MDS.1	HOST9:1872	1
MDS.1.0	HOST11:1281	1
MDS.1.1	HOST9:1872	1
MDS.2	HOST10:1884	1
MDS.3	HOST12:1283	1

FIG. 2B

DSD_HOST_ROUTE		
Key	Value	Valid
HOST0.0	10.7.6.4	1
HOST0.1	10.8.6.4	1
HOST1.0	10.17.6.4	0
HOST1.1	10.16.0.2	1
HOST1.2	10.16.8.0	1
HOST2.0	10.7.6.6	1
HOST2.1	10.7.6.8	1
HOST3	10.8.7.7	1

HOST9.0	16.7.13.1	1
HOST9.1	18.8.0.0	1

HOST30.0	16.7.16.1	1
HOST30.1	16.7.20.2	1

FIG. 2D

DSD_MTID_BSS		
Key	Value	Valid
BSS.1	HOST30.1008	1
BSS.2	HOST31.1010	1
BSS.3	HOST32.1012	1
BSS.4	HOST42.1481	1

FIG. 2C

Values not in key table
apply algorithm e.g mod 3

6 mod 3

8 mod 3

DSD_MTID_METADATA_PART		
Key	Value	Valid
0	MDS.1	1
1	MDS.1	1
2	MDS.2	1
3	MDS.3	1
4	MDS.3	1

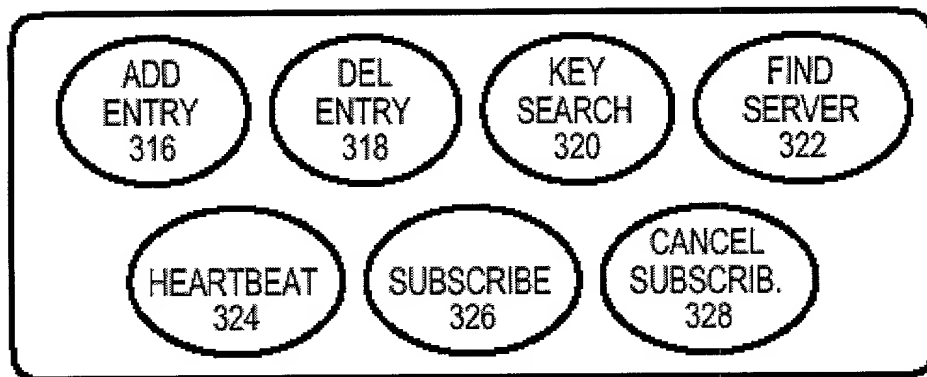
FIG. 2G

DSD_MTID_METADATA_PART		
Key	Value	Valid
0	MDS.1	1
1	MDS.1	1
2	MDS.2	1
3	MDS.3	1
4	MDS.3	1

FIG. 2E

DSD_MTID_BITFILE_PART		
Key	Value	Valid
0	BSS.4	1
1	BSS.5	1
2	BSS.16	1
3	BSS.3	1
4	BSS.1	1
5	BSS.6	1

FIG. 2F



GATEWAY PROCESS TABLE	302
METADATA PROCESS TABLE	304
FILE SERVER PROCESS TABLE	306
HOST ROUTE TABLE	308
METADATA PARTITION TABLE	310
FILE PARTITION TABLE	312
TABLE TRANSLATE TABLE	314

FIG. 3

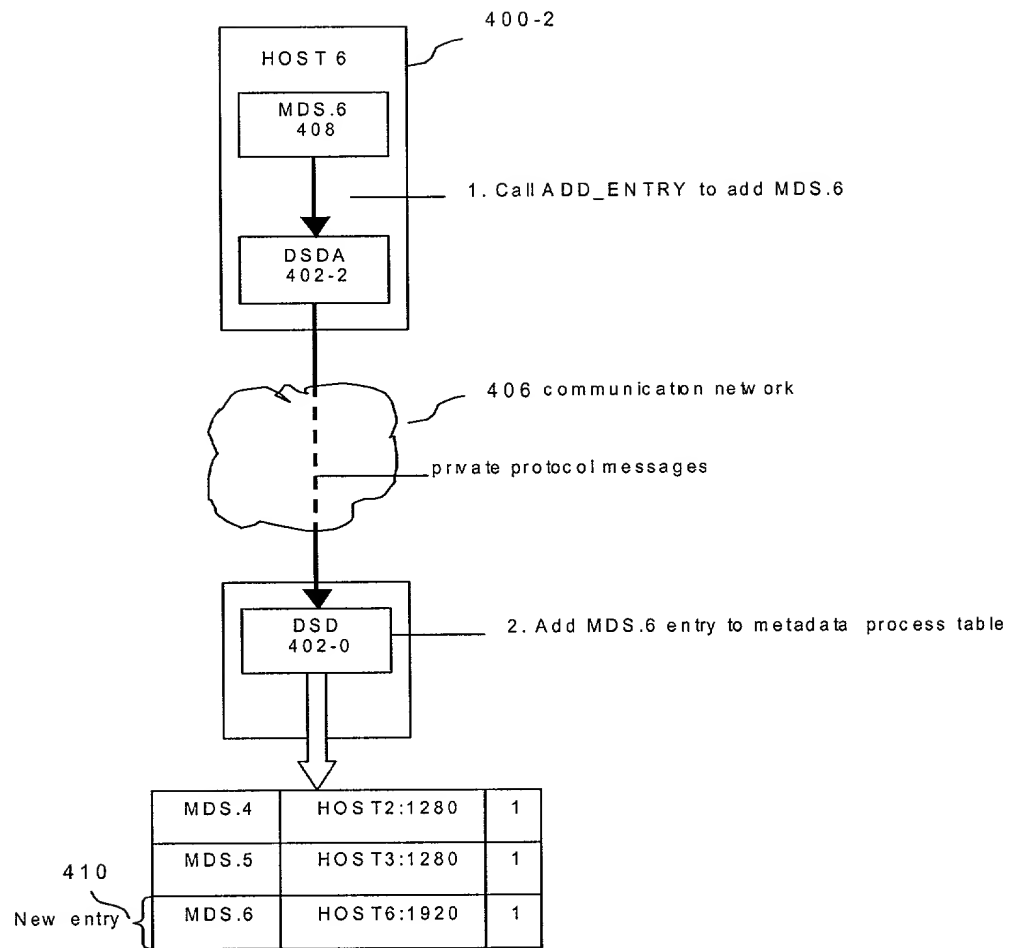


FIG. 4A

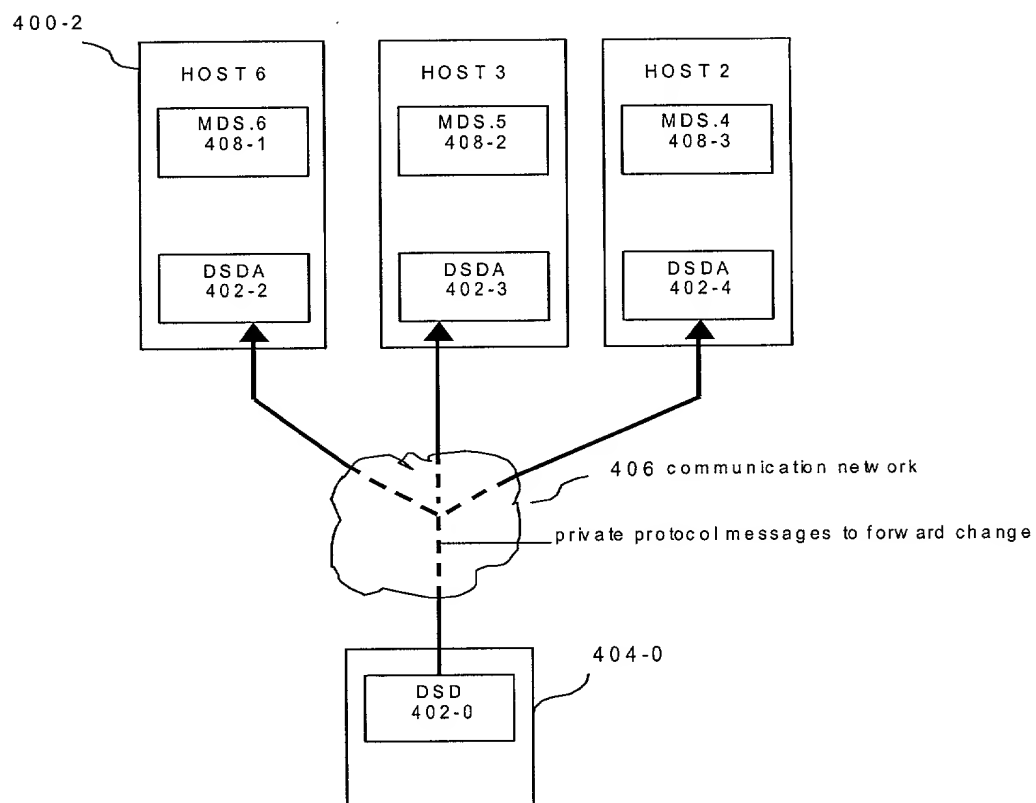


FIG. 4B

```

Function Key_Search {
  input (Table_Name, Prefix)
  For all Entries in Table_Name,
    If Entry.Key starts with Prefix
      Add Entry to Entry_List
  output (Entry_List)
}

```

FIG. 5A

```

Function Find_Server {
  Call Key_Search input (Server_Table, Prefix), output (Server_Route)
  Extract Host_Name from Server_Route
  Call Key_Search input (Host_Route_Table, Host_Name), output (Host_Route)
  Replace Host_Name in Server_Route with Host_Route to construct Complete_Server_Route
  Output (Complete_Server_Route)
}

```

FIG. 5B

```

Function Heartbeat {
  input (Entry.Key, Time_Max)
  Entry.Valid = 1, Time = 0
  If Heartbeat received while Time < Time_Max
    Time = 0
  If Time ≥ Time_Max
    Entry.Valid = 0
}

```

FIG. 5C

```

Function Subscribe {
  input (Subscribe)
  Record subscription (Table, Key_Prefix, Event_Handler, Context,...)
  in Subscription_List
}

```

FIG. 5D

```

Function Pushed_Entries {
  input (Pushed_Entries)
  For each Subscribe in Subscription_List
    For each Entry in Pushed_Entries
      If Entry.Table == Subscribe.Table
        If Entry.key starts with Subscribe.Key_Prefix
          Call Subscribe_Event_Handler
    }
}

```

FIG. 5E

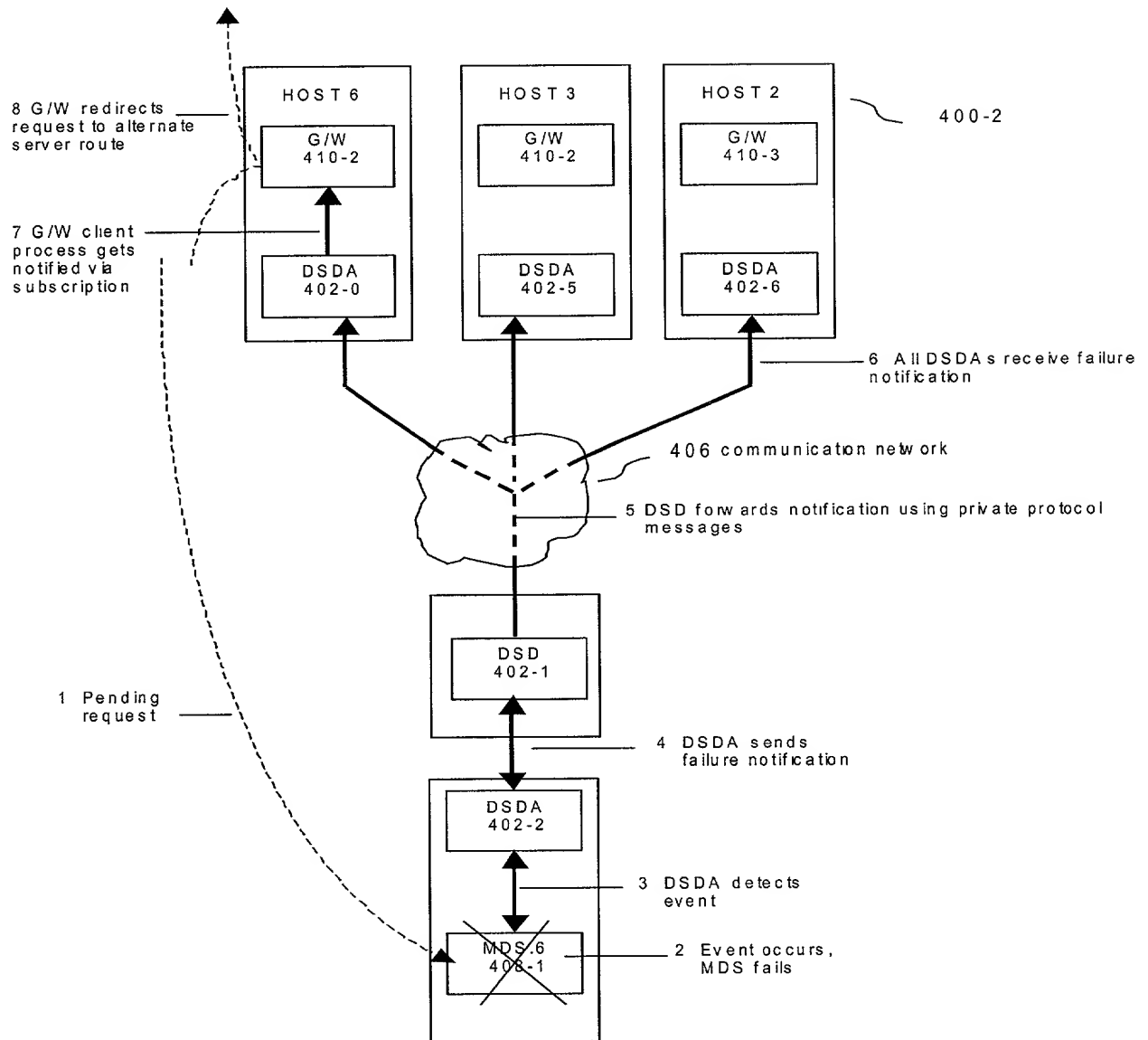


FIG. 4C

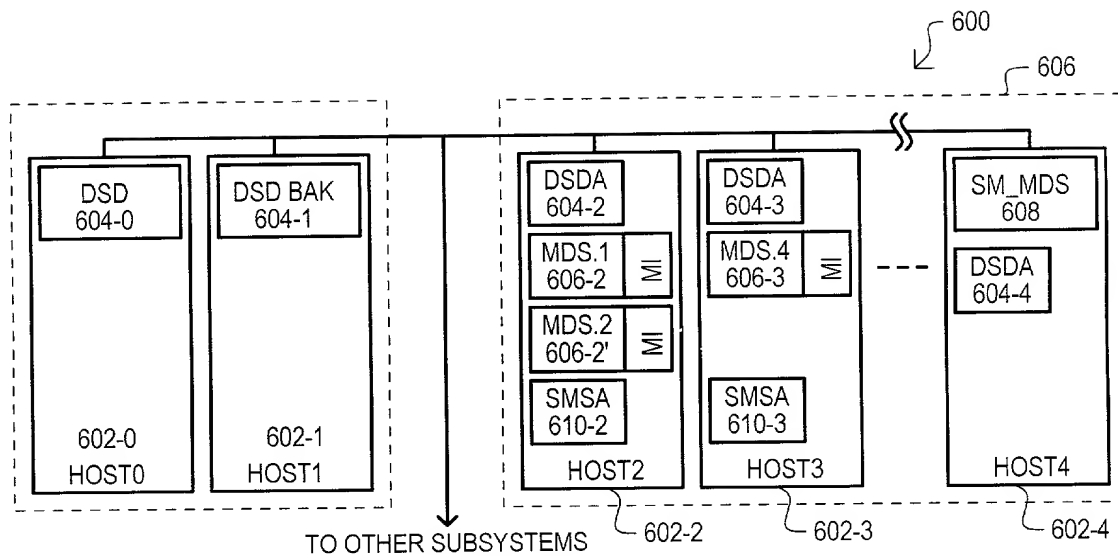


FIG. 6A

DSD_MTID_SERVICE_MASTER		
KEY	VALUE	VALID
...		
SMSA_HOST2	10.6.0.2	1
SMSA_HOST3	10.6.0.8	1

FIG. 6B

DSD_MTID_MANAGEMENT_IF		
KEY	VALUE	VALID
...		
MI_MDS.1.0	10.6.0.2	1
MI_MDS.1.1	10.8.10.8	1

FIG. 6C

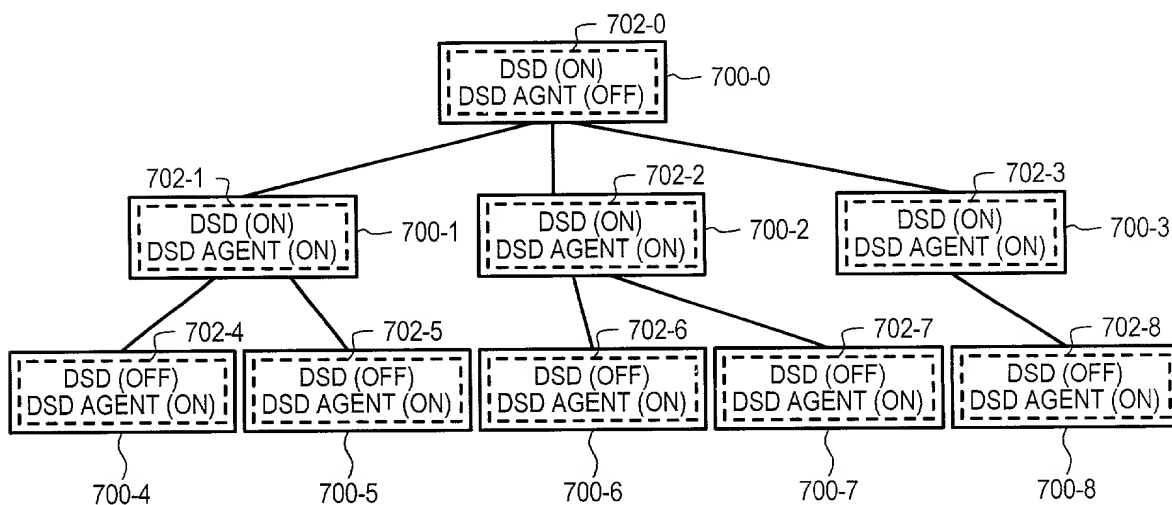


FIG. 7